UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,766	11/29/2000	John M. Davidson	020533.0340	1919

7590 11/17/2006

Baker Botts L.L.P.
2001 Ross Avenue
Dallas, TX 75201-2980

EXAMINER	
LEE, PHILIP C	

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/726,766
Filing Date: November 29, 2000
Appellant(s): DAVIDSON ET AL.

John M. Davidson
Akkamapet P. Sundarraj
James R. Pickering
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/8/2006 appealing from the Office action mailed 12/21/2005.

(1) ***Real Party in Interest***

A statement identifying by name the real party in interest is contained in the brief.

(2) ***Related Appeals and Interferences***

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) ***Status of Claims***

The statement of the status of claims contained in the brief is correct.

(4) ***Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) ***Summary of Claimed Subject Matter***

The summary of claimed subject matter contained in the brief is correct.

(6) ***Grounds of Rejection to be Reviewed on Appeal***

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) ***Claims Appendix***

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) ***Evidence Relied Upon***

2001/0030977	May	10-2001
2002/0042875	Shukla	4-2002
6,301,229	Araujo et al	10-2001

(9) ***Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections – 35 USC 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 12-13, 19-20, 24, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, U.S. Patent Application Publication 2001/0030977 (hereinafter May) in

view of Shukla, U.S. Patent Application Publication 2002/0042875 (hereinafter Shukla) and Araujo et al, U.S. Patent 6,301,229 (hereinafter Araujo).

3. May, Shukla and Araujo were cited in the last office action.

4. As per claims 1 and 12, May taught the invention substantially as claimed for communicating with an element within an enterprise network, comprising:

> at a first client, converting a first point-to-point protocol signal (e.g. PPP packet) into a network address request protocol packet (e.g. DHCP) (page 4, paragraph 49), the first point-to-point protocol signal comprising a point-to-point protocol header that includes an identifier of a second client (inherently comprised in the PPP packet).

5. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibly of May's system by allowing each layer to package a signal according to the

various protocol recommended by the Open System Interconnect (OSI) for network communication.

7. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system comprising:

communicating the encapsulated signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38).

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

9. As per claim 19, May taught the invention substantially as claimed, the method comprising:

at a first client, generating point-to-point protocol signal (page 4, paragraph 49); and converting the point-to-point protocol signal (e.g. PPP packet) into a network address request protocol packet (e.g. DHCP) (page 4, paragraph 49).

10. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g.

PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibly of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

12. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system for tunneling in an enterprise network comprising a plurality of clients coupled to a tunneling server (col. 8, lines 66-col. 9, lines 8) by at least one router (col. 7, lines 17-31), the system comprising:

> communicating the encapsulated signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38) operable to identify and remove the protocol header (col. 13, lines 37-47), to encapsulate the point-to-point protocol signal within a protocol response header, and to communicate the encapsulated response signal toward a second client (col. 13, lines 34-36, 48-56).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

14. As per claims 24 and 37, May taught the invention substantially as claimed comprising:

a protocol stack operable to generate a first point-to-point protocol signal (page 4, paragraph 49) comprising a point-to-point protocol header that includes an identifier of a second client (inherently comprised in the PPP packet);

a module operable to convert the first point-to-point encapsulated signal (e.g. PPP packet that inherently comprised a PPP header) into a network address request protocol packet comprising a Dynamic Host Configuration Protocol (page 4, paragraph 49) (It is inherent that DHCP comprised of DHCP DISCOVERY); and

forwarding the network address request to the tunneling server without reference to the routing table. (It is inherent that referencing to the routing table will not be necessary because the packet is a DHCP DISCOVERY packet).

15. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion

between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibly of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

17. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system comprising at least one client coupled to a tunneling server by a router having a routing table indexed by data channel addresses (fig. 1) wherein the first client is operable to communicate the protocol request encapsulated signal toward the router for forwarding to the tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

19. As per claim 33, May taught the invention substantially as claimed comprising:

a module operable to receive a first point-to-point protocol signal converted within a network address protocol (page 4, paragraph 49), the first point –to-point protocol signal comprising a point-to-point protocol header includes an identifier of the client (inherently comprised in the PPP packet), the network address response (It is inherent that DHCP comprised of DHCP OFFER).

20. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibly of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

22. May and Shukla did not teach removing the protocol response header and a private protocol stack. Araujo taught a similar system wherein a client (element 10, fig. 1) having an

enterprise protocol stack operable to process signals received from a data channel and associated with a data channel address (col. 3, lines 11-24), comprising

a tunneling module to removes the protocol response header to expose the first point-to-point protocol signal (col. 3, lines 21-26); and

a private protocol stack operable to receive the first point-to-point protocol signal from the tunneling module and to communicate at least a portion of a payload of the first point-to-point protocol signal to a socket layer coupled to an application residing at the client (col. 3, lines 21-26, 40-43; col. 4, lines 41-46).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of removing the protocol response header would improve the management of data flow of May's and Shukla's systems by allowing the packet to be decapsulated according to the Open System Interconnect (OSI) before forwarding to higher layer processing (col. 4, lines 41-46).

24. As per claims 3, 13 and 20, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 12 and 19 above. Araujo further taught wherein communicating the encapsulated signal toward a tunneling server comprises communicating the signal toward a router configured to relay network address requests to the tunneling server (col. 7, lines 17-31) without referencing a routing table indexed by data channel addresses (see May, page 3, paragraph 46; page 4, paragraph 49) (it is inherent that referencing to the routing table will not be necessary because the packet is a DHCP DISCOVERY packet).

25. Claims 4, 10-11, 14, 18, 21, 23, 28-29, 31-32, 38 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla, and Araujo in view of Inoue et al, U.S. Patent Application Publication 2002/0007414 (hereinafter Inoue).

26. Inoue was cited in the last office action.

27. As per claims 4, 14, 21, 28-29 and 41-45, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 3, 12-13, 20, 24 and 33 above. May, Shukla and Araujo did not teach a control channel address being different from channel address recognized by the router. Inoue taught wherein the identifier comprises a control channel address of the second client, the control channel address being different from any data channel address recognized by the router (page 7, paragraph 84).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of a control channel address being different from channel address recognized by the router would increase the routing functionality of May's, Shukla's and Araujo's systems by allowing a router to relay packet based on the protocol field of the packet even if the control channel address is unrecognized by he router (page 7, paragraph 84).

29. As per claims 10, 18, 23 and 31, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 12, 19 and 24 above. May, Shukla and Araujo did not teach receiving from the tunneling server, the encapsulated response signal with a second point-to-point signal and encapsulated within a network address response header. Inoue taught comprising receiving an encapsulated response signal from the tunneling server, the encapsulated response signal comprising a second point-to-point protocol signal responsive to the first point-to-point protocol signal and encapsulated within a network address response header (page 7, paragraph 96).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of receiving the encapsulated response signal from the tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

31. As per claims 11 and 32, May, Shukla, Araujo and Inoue taught the invention substantially as claimed in claims 10 and 31 above. Inoue further taught wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol RESPONSE header (page 7, paragraphs 82 and 96).

32. As per claim 38, May, Shukla and Araujo taught the invention substantially as claimed in claims 37 above. May, Shukla and Araujo did not specifically teach a Dynamic Host

Configuration Protocol DISCOVER header. Inoue taught wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header (page 7, paragraphs 82 and 96).

33. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of encapsulating a dynamic host configuration protocol request would increase the alertness of May's, Shukla's and Araujo's systems by providing the recognition that the IP address is to be acquired by the DHCP on behalf of the client (page 7, paragraph 84).

34. Claims 5-7, 15-16, 30 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla and Araujo in view of Singhal et al, U.S. Patent 6,633,761(hereinafter Singhal).

35. Singhal was cited in the last office action.

36. As per claims 5 and 15, May, Shukla and Araujo taught the invention substantially as claimed in claims 1 and 12 above. May, Shukla and Araujo did not teach a payload with information to be applied to an application at the second client. Singhal taught wherein the first point-to-point protocol signal comprises a payload including information to be applied to an application residing at a second client (col. 9, lines 60-62).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of a payload with information to be applied to an application residing at a second client would increase the flexibility of May's, Shukla's and Araujo's systems by allowing an administrator to remotely transfer information to a client over the network.

38. As per claims 6, 30 and 35, Singhal further taught wherein the application residing at the second client comprises a maintenance application operable to diagnose operational characteristics of the second client (col. 14, lines 3-6).

39. As per claims 7 and 16, May, Shukla and Araujo taught the invention substantially as claimed in claims 1 and 12 above. May, Shukla and Araujo did not teach a payload with at least a portion of an application to be installed on the second client. Singhal taught wherein the first point-to-point protocol signal comprises a payload including at least a portion of an application to be installed on the second client (col. 9, lines 60-62).

40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of a payload with information to be applied to an application residing at a second client would increase the flexibility of May's, Shukla's and Araujo's systems by allowing an administrator to remotely transfer information to a client over the network.

41. As per claim 36, May, Shukla and Araujo taught the invention substantially as claimed in claim 33 above. May, Shukla and Araujo did not teach an application to process the at least a portion of the payload and to generate an output. Singhal taught wherein the application comprises an application operable to process the at least a portion of the payload and to generate an output to be communicated toward another network element (col. 9, lines 60-62; col. 14, lines 1-12).

42. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of process the at least a portion of the payload and to generate an output would increase the efficiency of May's, Shukla's and Araujo's systems by providing automatic information updates to registry of different devices.

43. Claims 8-9, 17, 22, 26-27 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla and Araujo in view of Zhang, U.S. Patent 6,108,345 (hereinafter Zhang).

44. Zhang was cited in the last office action.

45. As per claims 8, 17, 22, 26 and 39, Although, May, Shukla and Araujo taught encapsulating the first point-to-point protocol signal within a MAC header with MAC identifier prior to encapsulating the first point-to-point protocol signal within the network request header

(see May, page 3, paragraph 47; page 4, paragraph 52), however, May, Shukla and Araujo did not specifically detailing the header encapsulated prior to the DHCP header is a tunneling header. Zhang taught a tunneling header comprising a header with a MAC identifier (col. 10, lines 16-23).

46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Zhang because Zhang's teaching of encapsulated tunneling header would increase the efficiency of May's, Shukla's and Araujo's systems by allowing the process of address determination to be included in a packet in a point-to-point tunnel session.

47. As per claims 9, 27 and 40, May, Shukla, Araujo and Zhang taught the invention substantially as claimed in claims 8, 26 and 39 above. Araujo further taught wherein the tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point-to-Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header (col. 5, lines 1-4; col. 9, lines 4-15).

(10) ***Response to Argument***

The examiner summarizes the various points raised by the appellant and addresses replies individually.

Appellant argued that:

(1) May fails to teach encapsulating a first point-to-point protocol signal within a network address header.

(2) Araujo teaches identifying a tunneling header instead of identifying a network address request header.

(3) Araujo fails to teach a tunneling server operable to remove the network address request header.

(4) Araujo fails to teach the server operable to encapsulate the point-to-point signal let alone encapsulate the signal in a network address response header or even a response header.

(5) Singhal teaches information in the network address request header is applied to the application and not the information in the first point-to-point protocol signal is applied to the application.

(6) Singhal teaches adding an AUL table entry used by the core server application not adding an application.

In reply to argument (1): May teaches a translator 522 is a relay function between the point-to-point protocol (PPP) layer 502 and the dynamic host configuration protocol (DHCP, i.e., network address protocol) layer 524, which converts packets from the PPP format into DHCP format [0049]. As disclosed in Figure 5, PPP layer 502 and DHCP layer 524 are layers of a stack model in a modem connected to a client. May does not explicitly teach encapsulating PPP signal within a network address request header as PPP signal is relay to the DHCP layer. Shukla teaches as data is packaged as it travels through the different layers of the open systems

interconnect (OSI) model (i.e., a stack model). Each layer adds its own fixed length header to the data before transmitting it to the next layer [0003]. Therefore, the combination of May's and Shukla's teachings teach the DHCP layer (network address protocol layer) must encapsulate its own header (network address request header, i.e., DHCP header) to packets from the PPP layer (PPP signal with PPP header) as packet is relay between protocol layers according to the stack model (OSI model).

Furthermore, as disclosed by May, a broadband device (modem) encapsulates IP packets into PPP frames that are in turn encapsulated in PPPoE frames [0016]. This means a PPP signal is encapsulated within another header. May further teach PPP over Ethernet is only one embodiment. The PPP binding layer 504 can use any protocol that binds PPP into a specific network interface ([0048]). This means PPP signal can be encapsulated in different protocol header in order to binds PPP signal into a specific network interface. May further teach PPPoE frame is used for user requesting PPPoE connection to an access server [0016]. Since PPPoE frame must include a header for requesting a network address server (an access server in a network) for establishing connection, it is consider as a network address request header.

In reply to argument (2): Araujo teaches a remote access server (RAS, i.e., tunneling server) look into the cell of a frame by looking at the PT bit (col. 13, lines 37-39). As shown in figure 5, the PT bit is located in the header. This means RAS is operable to identify header in order to look into the PT bit. Although Araujo teaches a tunneling server operable to identify header and not identifying a *network address request header*, however May's teaching of network address request header in combination with Araujo's teaching of tunneling server

operable to identify header would allow a server to identify PPP signal within network address request header.

Furthermore, applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In reply to argument (3): Araujo teaches the RAS (tunneling server) is operable to look into the bytes of data after the header in a cell (col. 13, lines 43-44). This means that the RAS must remove the header in order to look into the data after the header.

In reply to argument (4): Araujo teaches the RAS prepended L2TP multiplexing header (response header) to PPP frames (col. 13, lines 34-36). This means that RAS is encapsulating (prepending) a header to the PPP signal (PPP frames) and sent to toward the ADSL endpoint (requesting user) (i.e., it is a frame with a header in response to a requesting client, hence it is consider a response header).

In reply to argument (5): Singhal teaches HMP encapsulates a DHCP request into a request message (col. 9, lines 39-41). This means that the DHCP request must be the payload encapsulated with a request message header. Singhal further discloses the Core receives and decapsulates the DHCP request (col. 9, lines 50-51) and creates AUL Registry values as shown in column 310 of figure 3 (col. 9, lines 60-62). As shown in figure 3, element 310 is the user name, this is information contained in the payload and not in the header of a message. Therefore, Singhal teaches a payload including information to be applied to an application. The combination of May's teaching of PPP signal with Singhal's teaching of a payload including

information to be applied to an application would allow information in the payload of a PPP signal to be applied to application.

Furthermore, applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In reply to argument (6): Araujo teaches data from payload (as explained in reply to argument (5) above) is used to create AUL Registry values for the Registry application (col. 9, lines 60-62). This means the AUL Registry values created (installed) from the payload is part of the Registry application, hence it is considered as *at least a portion of an application* installed on the second client.

(11) ***Related Proceeding(s) Appendix***

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(12) ***Conclusion***

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Philip C. Lee

November 9, 2006

Conferees:

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER

WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100